iPSC-derived smooth muscle cell progenitor conditioned medium for treatment of pelvic organ prolapse

Grant Award Details

iPSC-derived smooth muscle cell progenitor conditioned medium for treatment of pelvic organ prolapse

Grant Type: Quest - Discovery Stage Research Projects

Grant Number: DISC2-13205

Investigator:

Name:	Bertha Chen
Institution:	Stanford University
Type:	PI

Award Value: $1,420,200

Status: Pre-Active

Grant Application Details

Application Title: iPSC-derived smooth muscle cell progenitor conditioned medium for treatment of pelvic organ prolapse

Public Abstract:

Research Objective

Conditioned media from human iPSC-derived smooth muscle cell progenitors. This media exerts paracrine effect to restore damaged vaginal wall in patients with pelvic organ prolapse.

Impact

Pelvic organ prolapse (POP) is characterized by the downward movement of the vagina and/or uterus through the vaginal opening. It is treated with surgery. The candidate is a non-surgical treatment.

Major Proposed Activities

- Production and banking of conditioned media from human pluripotent stem cell-derived smooth muscle cell progenitors
- Develop measures of identity and activity.
- Demonstrate reproducible disease/injury modifying activity in three human iPSC lines and two human embryonic lines.
- Perform initial studies to assess mechanism of action and early safety.

Statement of Benefit to California:	Pelvic organ prolapse affects adult women. Northern Californian studies show that Latinx and white women have a 4-5 times higher risk of symptomatic pelvic organ prolapse compared to African American women. The candidate addresses the unmet medical needs of CA women. It can be produced in quantities sufficient for multiple use and stored. It is easily injected into the vagina by the gynecologist in the office. This decreases overall cost and morbidity compared to current surgeries.

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